

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number
WO 2005/077423 A3

(51) International Patent Classification⁷: **A61K 47/48**,
31/045, 31/19, 38/44, 38/51, A61P 35/00

(21) International Application Number:
PCT/GB2005/000363

(22) International Filing Date: 3 February 2005 (03.02.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0402626.6 6 February 2004 (06.02.2004) GB
0413975.4 22 June 2004 (22.06.2004) GB

(71) Applicant and

(72) Inventor: **SAVAGE, Philip** [GB/GB]; 45 Northover Road,
Westbury-on-Trym, Bristol BS9 3LN (GB).

(74) Agents: **RICHARDS, William** et al.; D Young & Co, 120
Holborn, London EC1N 2DY (GB).

(81) Designated States (*unless otherwise indicated, for every kind of national protection available*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,

MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

— *with international search report*
— *with amended claims and statement*

(88) Date of publication of the international search report:
17 November 2005

Date of publication of the amended claims and statement:
12 January 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: ADEPT OR GDEPT PRODUCING ACETALDEHYDE

(57) Abstract: The present invention includes compounds, comprising a portion capable of converting a substrate, for example ethanol, to acetaldehyde and a means of directing the compounds to selected cells, and their use in therapeutic compositions and methods. The compounds may be administered with the substrate, for example ethanol, and an inhibitor of aldehyde dehydrogenase. As an example, acetaldehyde may be produced locally in tumours as a result of the presence of the enzyme alcohol dehydrogenase within the tumour targeted there by either antibody delivery systems, liposomes or gene therapy delivery systems, or any other suitable system to allow the localisation of a suitable enzymatically active component at the tumour site. When the substrate is pyruvate (i.e. the portion capable of converting a substrate to acetaldehyde is a catalytically active portion of pyruvate decarboxylase), the substrate may preferably be endogenous, i.e. present naturally in the body, particularly in or in the vicinity of the target cells.



WO 2005/077423 A3